

ABSTRACT

Full-mesh WDM transmission units 1 each including n interfaces and capable of establishing a bidirectional full-mesh communication among all the interfaces using wavelength paths based on a wavelength division multiplexing technique are connected in a multistage tree-shaped structure by internetwork connection units 3 through edge-packet transfer units 2 connected to the respective interfaces. It is thereby possible to hold a direct communication between user terminals connected to the edge-packet transfer units 2 of the same full-mesh WDM transmission unit 1, and realize scalability by a multistage connection configuration.